

IN THE CLAIMS:

Claim 1 has been amended herein. Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) An assembly system for placing a plurality of conductive spheres on a substrate having an upper surface having conductive sites comprising one of recessed sites and level sites with respect to said upper surface, said assembly comprising:
a stencil plate with upper and lower surfaces, and a pattern of a plurality of through-holes, said stencil plate configured to place said plurality of conductive spheres in said pattern on a surface of said substrate;
a hopper having side walls formed at a continuous uninterrupted angle extending from an upper opening at the top of the hopper having a first dimension for feeding spheres into a smaller bottom opening having a dimension smaller than the first dimension of the upper opening extending across said first pattern for dispensing said spheres into said plurality of through-holes extending across said stencil plate, the bottom opening having width in the range of at least two diameters of a conductive sphere to about ten diameters of a conductive sphere, said hopper having a bottom lower surface spaced from an upper surface of the stencil plate a distance in the range of ~~about less than one-half the diameter of a conductive sphere to~~ about less than one-third the diameter of a conductive sphere; and
a positioning apparatus for moving said hopper over said pattern relative said stencil plate to place said spheres into said plurality of through-holes onto one of the recessed sites and level sites of said surface of said substrate.

2. (Previously Presented) The assembly system of claim 1, wherein said spheres drop into and pass downwardly through said through-holes by gravitational force.

3. (Previously Presented) The assembly system of claim 1, wherein said pattern corresponds to a pattern of bond pads on said substrate.

4. (Cancelled)

5. (Previously Presented) The assembly system of claim 1, wherein the diameter of said through-holes of said pattern are greater than the diameter of said spheres by up to 1 mm.

6. (Previously Presented) The assembly system of claim 1, wherein said stencil plate is spaced from said substrate to restrain said spheres dropped onto said substrate within said pattern.

7. (Cancelled)

8. (Previously Presented) The assembly system of claim 1, wherein said stencil plate is spaced from said substrate to restrain said spheres dropped onto depressed bond pads of said substrate.

9.-17. (Cancelled)

18. (Previously Presented) An assembly system for positioning a plurality of conductive spheres on a substrate having an upper surface having conductive sites comprising one of recessed sites and level sites with respect to said upper surface, each conductive sphere of said plurality of conductive spheres having a diameter, said assembly comprising:
a stencil plate having an upper surface, having a lower surface, having a pattern of a plurality of

through-holes, each through-hole having a diameter, said stencil plate configured to position said plurality of conductive spheres in said pattern on a proximate surface of said substrate;

a hopper having a top opening having a first dimension narrowing through a continuous constant angle from the top opening to a bottom opening with a second dimension extending across said pattern for dispensing said spheres into said plurality of through-holes of said pattern of said stencil plate, the bottom opening having width in the range of at least two diameters of a conductive sphere to about ten diameters of a conductive sphere, said hopper having a bottom lower surface spaced from an upper surface of the stencil plate a distance in the range of about less than one-half the diameter of a conductive sphere to about less than one-third the diameter of a conductive sphere; and

a positioning apparatus for moving said hopper over said pattern relative of said stencil plate to position said spheres into said plurality of through-holes onto one of the recessed sites and level sites of said proximate surface of said substrate.

19. (Previously Presented) The assembly system of claim 18, wherein said spheres drop into and pass downwardly through said through-holes by gravitational force.

20. (Previously Presented) The assembly system of claim 18, wherein said first pattern corresponds to a pattern of bond pads on said substrate.

21. (Cancelled)

22. (Previously Presented) The assembly system of claim 18, wherein the diameters of said through-holes of said first pattern are greater than the diameters of said plurality of spheres by up to 1 mm.

23. (Previously Presented) The assembly system of claim 19, wherein said stencil plate is spaced from said substrate to restrain said spheres dropped onto said substrate within said first pattern.

24. (Cancelled)

25. (Previously Presented) The assembly system of claim 20, wherein said stencil plate is spaced from said substrate to restrain said spheres dropped onto depressed bond pads of said substrate.

26.-34. (Cancelled)